

149379

PATENT

Serial No. 10/803,620

Response to Office Action of May, 13 2005

LISTING OF THE CLAIMS

The following listing of the claims is intended to replace all previous versions and/or listings of the claims in the present application:

Claim 1 (Currently Amended) A system for storing spent nuclear fuel comprising:

an overpack body having a cavity for receiving and storing a spent fuel canister, a major portion of the body positioned below grade;

the overpack body having containing at least one inlet ventilation duct extending from an above grade inlet to a below grade outlet in the cavity.

Claim 2 (Currently Amended) The system of claim 1 wherein the above grade inlet is in a side wall of the overpack body.

Claim 3 (Original) The system of claim 2 wherein the below grade outlet is at or near a bottom of the cavity.

Claim 4 (Original) The system of claim 3 wherein the inlet ventilation duct is an elongated substantially S-shape.

Claim 5 (Currently Amended) The system of claim 1 wherein the number of the inlet ventilation ducts in the overpack body is two.

Claim 6 (Currently Amended) The system of claim 5 wherein the above grade inlets of the two inlet ventilation ducts are on opposing side walls of the overpack body.

Claim 7 (Currently Amended) The system of claim 1 wherein at least a portion of the inlet ventilation duct is insulated from the overpack body.

Claim 8 (Currently Amended) The system of claim 1 wherein at least a portion of the cavity is insulated from the overpack body.

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Claim 9 (Original) The system of claim 1 further comprising a shell lining the cavity.

Claim 10 (Original) The system of claim 1 wherein the inlet ventilation duct and the cavity are hermetically sealed to the ingress of below grade liquids.

Claim 11 (Currently Amended) The system of claim 10 wherein the shell and the inlet ventilation duct are made of steel, the shell and the inlet the ventilation duct connected by welding.

Claim 12 (Original) The system of claim 11 further comprising a steel bottom plate integral to the shell and the inlet ventilation duct.

Claim 13 (Currently Amended) The system of claim 1 wherein the overpack body is made of concrete.

Claim 14 (Original) The system of claim 1 further comprising means to support a canister on a bottom surface of the cavity, the support means providing an air plenum between a canister of spent nuclear fuel and the bottom surface of the cavity when the canister is placed in the cavity for storage.

Claim 15 (Original) The system of claim 14 wherein the support means are one or more support blocks.

Claim 16 (Currently Amended) The system of claim 15 wherein the support means are a plurality of circumferentially spaced ~~the support blocks are circumferentially spaced.~~

Claim 17 (Original) The system of claim 16 wherein the support blocks are made of steel or another weldable metal.

Claim 18 (Currently Amended) The system of claim 1 further comprising a removable lid positioned atop the overpack body and covering the cavity.

Claim 19 (Original) The system of claim 18 wherein when a spent fuel canister is positioned in the cavity, an air plenum exists between the canister and the lid.

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Claim 20 (Currently Amended) The system of claim 18 wherein the lid comprises a shear ring, the shear ring protruding into the cavity when the lid is positioned atop the overpack body.

Claim 21 (Original) The system of claim 18 wherein the lid comprises at least one outlet ventilation duct for allowing heated air to exit the cavity.

Claim 22 (Original) The system of claim 21 wherein the outlet ventilation extends horizontally through a side wall of the lid.

Claim 23 (Original) The system of claim 22 wherein the outlet ventilation duct in the lid is circumferentially and azimuthally separated from the above grade inlet of the inlet ventilation duct in the body.

Claim 24 (Currently Amended) The system of claim 1 further comprising a base on which the overpack body is positioned.

Claim 25 (Original) The system of claim 24 wherein the base is a concrete slab.

Claim 26 (Currently Amended) The system of claim 1 wherein approximately 6 to 36 inches of the overpack body's height is above grade.

Claim 27 (Original) The system of claim 1 further comprising a vent screen covering the above grade inlet of the inlet ventilation duct.

Claim 28 (Currently Amended) The system of claim 1 wherein the cavity and the inlet ventilation duct are formed by an integral steel lining and the overpack body is formed of concrete.

Claim 29 (Original) The system of claim 1 wherein a major portion of the cavity's height is below grade.

Claim 30 (Original) The system of claim 1 further comprising at least one outlet ventilation duct for allowing heated air to exit the cavity.

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Claim 31 (Cancelled)

Claim 32 (Newly Added) A system for storing spent nuclear fuel comprising:

a ground having a grade level;

a body forming a cavity, a major portion of the body positioned below grade;

at least one ventilation passageway extending through the body from an above grade opening in an exterior surface of the body to a below grade opening in an interior surface of the body, the below grade opening being in spatial communication with the cavity; and

a canister positioned in the cavity, an annular space being formed between the internal surface of the body and the canister.

Claim 33 (Newly Added) The system of claim 32 wherein the body is an overpack body.

Claim 34 (Newly Added) The system of claim 33 further comprising means for insulating the inlet ventilation passageway from the body.

Claim 35 (Newly Added) A system for storing spent nuclear fuel comprising:

a ground having a grade level;

a body having a cavity formed by an internal surface of the body, a major portion of the body positioned below grade;

the body containing at least one ventilation passageway extending from an above grade opening in an exterior surface of the body to a below grade opening in the interior surface of the body, the below grade opening being in spatial communication with the cavity;

a canister positioned in the cavity in a vertical orientation; and

wherein the cavity is of a size such that the internal wall of the body prohibits the canister from tipping over.